

DOCUMENTATION FOR EBEY'S LANDING NATIONAL HISTORICAL RESERVE: BIRD CHECKLIST

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Introduction:

The National Park Service (NPS) is charged with the responsibility of managing park natural resources and preventing their loss or impairment. To aid in meeting this responsibility, NPS established the Natural Resource Inventory and Monitoring Program (I&M) that provides funding and technical support to approximately 270 national park units. The goals of this program are to help park units collect scientifically credible ecological resource information and to develop or improve field and analytical monitoring techniques to aid park managers in managing, planning, and protecting their natural resources.

As a first step toward meeting I&M goals, NPS initiated its Natural Resource Inventories Program in 2001. This five-year program emphasizes gathering a core set of data describing park vascular plant and vertebrate resources. This report documents the steps taken to meet the objectives of the NPS Natural Resource Inventories Program at Ebey's Landing National Historical Reserve (EBLA) for one faunal class, birds. The objectives at EBLA were twofold:

- (1) Update NPSpecies (National Park Flora and Fauna Species List) and continue to document, to the 90% verification level, bird species expected but undocumented.
- (2) Develop and publish an "Ebey's Landing National Historical Reserve – Bird Checklist."

Study Area:

Ebey's Landing National Historical Reserve is located on central Whidbey Island at the northern end of Washington's Puget Sound. EBLA was created by Congress in 1978 "to preserve and protect a rural community which provides an unbroken historic record from... 19th century exploration and settlement in Puget Sound to the present time." Within the boundaries of the 17,572 acre Reserve, the National Park Service owns in fee 684 acres and has conservation easements on 2,023 acres.

Five distinct natural landscapes occur within the Reserve. These landscapes include:

- an eight-mile coastal strip of sandy beaches, bluffs, and low ravines.

- over 5,000 acres of prairies that include wetlands, cultivated fields, pastures, and woodlands.
- approximately 4,500 acres of primarily second and third-growth Douglas fir, western red cedar, and red alder forests.
- uplands that are primarily openings in forests which are maintained as cultivated fields and pastures forming a patchwork of pastoral land.
- Penn Cove, a 4000 acre saltwater bay with rocky and sandy beaches.

Methods:

From 2001 through 2005 the North Coast and Cascades Network's (NCCN) conducted 2-year baseline avian inventories at five of the seven network parks. EBLA was not included in these initial avian inventories. Reasons for this decision were two-fold. First, limited funding for Natural Resource Inventories Program required that NCCN staff make hard choices on which parks and which vertebrate resources would be inventoried. NCCN staff concentrated their efforts in parks representing the most significant natural resource. Second, the Reserve is only about 4% NPS owned. Priority was given to resource lands owned by NPS. Instead, we compiled data from existing sources to update EBLA records in NPSpecies and to develop the first comprehensive EBLA's Bird Checklist. Information compiled to meet these two objectives came from the following sources:

- a literature review of park files (see literature cited).
- published records in books and periodicals (see literature cited; Appendices 1-5).
- personal field notes.
- And, the field notes and interviews of knowledgeable local groups (eg. Whidbey Audubon Society) and individuals who have spent many years documenting and observing birds within the Reserve.

Additionally, network organized and conducted a 1-year volunteer inventory at five locations within the Reserve. This information greatly aid in the development of EBLA's Bird Checklist.

NPSpecies methods:

NPSpecies is the National Park Service's master database for documenting the occurrence and status of species in more than 270 national park units that contain significant natural resources (citation). Within NPSpecies, each species record is supported by evidence in the form of voucher specimens, references (scientific reports or datasets), and/or observation records that document the occurrence of the species in each park.

Three categories from NPSpecies' Park Status section were used to populate the "list of expected species" in NPSpecies' EBLA bird species database. These three categories and their definitions are as follows:

- Present in Park – species’ occurrence in park is documented and assumed to be extant.
- Probably Present – park is within species’ range and contains appropriate habitat. Documented occurrences of the species in the adjoining region of the park give reason to suspect that it probably occurs within the park. The degree of probability may vary within this category, including species that range from common to rare. [Note: Poole (2005) and Smith et al. (1997) were used to document species’ ranges and suitable habitat for species classified in this category]
- Historic – species’ historical occurrence in the park is documented, but recent investigations indicate that the species is now probably absent.

To calculate the percent species documented in NPSpecies, the number of species classified as “present in park” was divided by the number of species on the “list of expected species”.

Checklist methods:

No formal checklist of birds for EBLA existed at the time NPS’s Natural Resource Inventories Program was implemented. However, Whidbey Audubon Society (2002) developed a checklist for Whidbey Island that incorporated the Reserve as part of the area covered by the list. This checklist uses seasonal “letter codes” of abundance for each species (eg. U under Spring for Blue-winged Teal means this species is uncommon from March through May). For the Reserve Bird Checklist I decided to use the “bar code” method. The “bar code” method presents the same information as “letter codes”, but in more detail and with greater accuracy (eg. a medium thickness bar from March 1 to April 20, then no bar to May 31 for Blue-winged Teal lets the reader know that this species, while uncommon in Spring, is only expected to be seen during the first half of that season and would likely not be seen the second half of spring).

Using “bar graphs” to development the Reserve’s Bird Checklist requires large amounts of data. Several areas within the Reserve, Penn Cove and Crockett Lake, are very popular bird watching sites. Much information has been published detailing abundance and timing of use at these sites (see literature cited). However, we found little information available for many other locations within the Reserve. To gather data necessary to develop the Bird Checklist we selected five areas within the Reserve that contained protected habitat representative of the diversity of land areas within the Reserve. These areas included Au Sable Lands, Fort Casey State Park, Bocker Reserve, Engle Farm, and Fort Ebey State Park. Volunteer observers were assigned to collect observational data at one of the five areas. For one year (Oct. 2002 through Sept. 2003), the volunteers visited their assigned site a minimum of once per month recording species seen, abundance, and habitat used. This information aided in determining each species timing of occurrence, in assigning abundance levels, and in identifying habitats each species commonly used.

NPSpecies was used to create an “EBLA’s Bird Checklist” (Kuntz 2008). A draft checklist was reviewed by a number of knowledgeable biologists and birdwatchers (S.

Mlodinow, B. Merrick, S. Ellis pers. comms.). As future visits to Fort Vancouver National Historic Site document new species not now known to occur there or species now listed as “Probably Present” are upgraded to “Present in Park”, both NPSpecies and the “Bird Checklist” will periodically be updated.

Acknowledgments:

I thank Rob Harbour, Reserve Manager, and Leigh Smith, National Park Service Resource Management Specialist at EBLA for providing documents, maps, and valuable incites on the Reserve and its resources. I am especially grateful to Bob Merrick who played a key role in helping choose the data collection sites; in recruiting and guiding volunteer efforts to gather data; in gathering, organizing, and summarizing the data; and in reviewing all products. I thank the following for volunteering to collect data at one or more sites: Sarah Schmidt, Steve Ellis, Martha Ellis, Janet Hall, Ann Linnea, and Gerry Smith. Your efforts, come rain or shine, greatly aided in the development of EBLA Bird Checklist. I thank Steve Ellis for providing additional field notes and reviewing drafts of the checklist. Your help added data and greatly improved their interpretation. I thank Ron Holmes and Lise Grace for their help and oversight in insuring NPSpecies certification, metadata interviews, and other administrative requirements were completed.

Literature Cited:

Kuntz, R.C. II. 2007. Ebey’s Landing National Historical Reserve: Bird Checklist. Department of the Interior, National Park Service, North Coast and Cascades Network, North Cascades National Park Service Complex, Sedro-Woolley, WA.

NPSpecies - The National Park Service Biodiversity Database. Desktop version 2.1. (accessed April 19, 2007).

Poole, A. (Editor). 2005. The Birds of North American Online: <http://bna.birds.cornell.edu/BNA/>. Cornell Laboratory of Ornithology, Ithaca, NY.

Smith, M.R., P.W. Mattocks, Jr., and K.M. Cassidy. 1997. Breeding birds of Washington state. Vol. 4 *in* Washington State Gap Analysis – Final Report (K.M. Cassidy, C.E. Grue, M.R. Smith, and K.M. Dvornich, eds.). Seattle Audubon Society Publications in Zoology No. 1, Seattle. 538 pp.

Products:

Electronic copies of this report and the EBLA Bird Checklist are at the following web sites:

Appendix 1. List of species with counts of individuals observed by monthly visits, Oct. 2002 – Sept. 2003 at Au Sable, Ebey’s Landing National Historical Preserve.

COMMON NAME	January			February			March			April			May			June			July			August			September			October			November			December		
Ring-necked Pheasant				1																																
California Quail				10									2			3		2																		
Bald Eagle		1						2																												
Northern Harrier		2		1				1													1						2				1					
Cooper's Hawk																1																				
Red-tailed Hawk		1		4				4			4		4			2		4				4			2			3		4		3				
American Kestrel		1						2			1													2			2		2		2					
Killdeer				1							2																1		1							
Mourning Dove		2		43				1			1		2			20		32				76			81			50		5		5				
Great Horned Owl				1							1																									
Rufous Hummingbird								1			3		5			3																				
Hairy Woodpecker											1							2				1			1											
Downy Woodpecker																													1							
Pileated Woodpecker		1						1			1					1								1			1									
Northern Flicker		1		5				2			1							2				2			1			4		3		1				
Olive-sided Flycatcher																2		1																		
Pacific-slope Flycatcher													2																							
Western Kingbird													1																							
Hutton's Vireo								1										1																		
Steller's Jay																								3												
American Crow		2		6				2			1		6			2		2									14		1			1				
Tree Swallow													1			1																				
Violet-green Swallow											5		3			10		9				12			5											
Northern Rough-winged Swallow											2																									
Cliff Swallow													1			4		1																		
Barn Swallow											4		3			11		3				18														
Chestnut-backed Chickadee		1		4				4			5		3			12		18				8			17			2		5		2				
Bushtit								3					4			8		3											15							
Red-breasted Nuthatch				1				1			3		3			6		8				5			13		1									
Brown Creeper		2		1				2			2		7			2		5				2			4							1				
Bewick's Wren											1		1					5						3												
House Wren											1		2			7		1				1														
Winter Wren		8		10				11			9		6			8		6				4			15			16		8		4				
Golden-crowned Kinglet		2		18				1			9		5			7		6				6			29			8		2		7				
Ruby-crowned Kinglet				2				2			3																					2				
Swainson's Thrush													2			1		3						1												

[illegible]

Appendix 2. List of species with counts of individuals observed by monthly visits, Oct. 2002 – Sept. 2003 at Bocker Reserve, Ebey's Landing National Historical Preserve.

COMMON NAME	January			February			March			April			May			June			July			August			September			October			November			December		
Canada Goose											4																									
Harlequin Duck																										1										
Surf Scoter			4					5																										11		
White-winged Scoter																																		1		
Bufflehead			4			1																														
Red-breasted Merganser			2					5																			1							3		
Common Loon								2																			2									
Horned Grebe			2			1																					1			2				4		
Double-crested Cormorant																														2				1		
Pelagic Cormorant			3																																	
Great Blue Heron																			1											1						
Bald Eagle								3				1							1											1						
Killdeer						2					1																									
Ring-billed Gull			96																																	
Glaucous-winged Gull						32																									2			1		
Common Murre																																				
Pigeon Guillemot								3																										1		
Mourning Dove								3			3		3				4			2																
Rufous Hummingbird								1			8		1				2																			
Hairy Woodpecker						2		3			1		1						2																	
Pileated Woodpecker								2			2		1				2			1			2			1					1					
Northern Flicker			1					1			4		1				3			2			1			2			1			1				
Olive-sided Flycatcher																			3																	
Pacific-slope Flycatcher																	4			2																
Hutton's vireo																	1																			
American Crow						2		21			6		1				2			2			1					7								
Common Raven																												2						1		
Black-capped Chickadee			1																																	
Chestnut-backed Chickadee			4			6		12			19		10				10			13			9			25			1			10			11	
Bushtit								3																												
Red-breasted Nuthatch			1								5		3				3			4			7			6					1					
Brown Creeper								1									5			1			1			2					1					
Bewick's Wren			1			2							2				3			1														1		
House Wren													1				2			2			2													
Winter Wren			7			4		12			10		4				8			3			4			20			2			1		4		
Golden-crowned Kinglet			7			15		15			2		2				3			2			6			23			2			2		9		
Ruby-crowned Kinglet			4			6		3			1																	3			2			1		

[illegible]

Appendix 3. List of species with counts of individuals observed by monthly visits, Oct. 2002 – Sept. 2003 at Engle Farm, Ebey's Landing National Historical Preserve.

COMMON NAME	January			February			March			April			May			June			July			August			September			October			November			December		
Canada Goose																					43															
Gadwall										2			2																							
Mallard			70							21			1																							
Green-winged Teal										7																										
Ring-necked Pheasant										1																	2									
California Quail			35							9			2			2			2								8			2		8				
Northern Harrier																					1			1												
Sharp-shinned Hawk																																1				
Cooper's Hawk																					1			1					1							
Red-tailed Hawk			2			2			1			1			2			2			2			2			2			2		1				
Merlin												1																								
Killdeer																	1																			
Wilson's Snipe									1																											
Glaucous-winged Gull			62																													100				
Rock Pigeon			17			26			30			14			19			14			86			80			95			100		75		75		
Mourning Dove															1								2			4			1							
Great Horned Owl																							1													
Rufous Hummingbird												1																								
Hairy Woodpecker			1			1			1																	1							2			
Downy Woodpecker						1																														
Pileated Woodpecker			1			1									1											1										
Northern Flicker			2			3			1			3								1						2			1			3		1		
Northern Shrike																				1																
Hutton's vireo									3																											
American Crow						2			1																			2								
Tree Swallow															7			4																		
Violet-green Swallow															3																					
Cliff Swallow																				15																
Barn Swallow															22			3			21			28												
Chestnut-backed Chickadee						3									2											1							5			
Bushtit						40																														
Winter Wren			3			4			1			3														4			1							
Marsh Wren			1																																	
Golden-crowned Kinglet						4																				2								5		
Ruby-crowned Kinglet									1																											
Swainson's Thrush															3			2																		
American Robin			4			35			26			41			28			14			5			5			29					10		2		

COMMON NAME	January			February			March			April			May			June			July			August			September			October			November			December		
European Starling			75			90			40			2			41			30			47			68			98			175			275		154	
Spotted Towhee			2			3						9			1												3			1			3			
Savannah Sparrow			2			1						4			2			11			10			2			17			5			4			
Fox Sparrow			3						1			11						4								1										
Song Sparrow			28			26			20			1			3			7			4					14			11			13		13		
Lincoln's Sparrow									2																			1								
White-crowned Sparrow			8			12			6			6			8			7			10			3			8			3				6		
Golden-crowned Sparrow			50			5																						12			19			26		
Dark-eyed Junco			14			4			1																1			7			9			3		
Red-winged Blackbird									2			57			32			70			4															
Western Meadowlark												1																								
Brewer's Blackbird			1			80			5									7			9							10								
Brown-headed Cowbird															2			1																		
House Finch			12			12			2			8						15			24			6			9									
pine siskin									4																											
American Goldfinch															3			10			12			7			6									
House Sparrow									4						5			8			30			31			85			12			50			

Appendix 4. List of species with counts of individuals observed by monthly visits, Oct. 2002 – Sept. 2003 at Fort Casey State Park, Ebey’s Landing National Historical Preserve.

COMMON NAME	January			February			March			April			May			June			July			August			September			October			November			December		
Canada Goose						4				1			2																							
Harlequin Duck		2				5				5			6			19								5			2			3			4			
Surf Scoter						3				1			9			3											6					3				
White-winged Scoter										2																										
Black Scoter										2																										
Bufflehead		1				1																										4				
Common Goldeneye																						1														
Red-breasted Merganser		3						2		14																				6			2			
California Quail										3			4			4			1			13														
Pacific Loon																											2									
Common Loon		1				2				1									1								1			4			1			
Horned Grebe		6				3				7																	1			2						
Red-necked Grebe		4								13									1					3												
Western Grebe													2																							
Double-crested Cormorant		1						1		11						1												2			4			1		
Pelagic Cormorant		1								5			3						2					2									1			
Great Blue Heron													1			2			1			1		2						2			1			
Bald Eagle										1						1															1					
Northern Harrier						1																														
Red-tailed Hawk													1																							
Killdeer										2			2			1			1												4					
Bonaparte's Gull										1			25																							
Bonaparte's Gull																2			31			89			163											
Herring Gull										2																										
Glaucous-winged Gull		4				2				68			94			22			6			2		3						5			4			
Common Murre													1						1			6		2												
Pigeon Guillemot						3			6	6			18			14			8			1		47							6					
Marbled Murrelet		1											4																							
Rhinoceros Auklet										78			125			22			34					3												
Mourning Dove								2		4						2			1			1														
Rufous Hummingbird								1		7			2			6			1																	
Belted Kingfisher																						1		3							1					
Hairy Woodpecker										1																										
Downy Woodpecker		1																	1																	
Pileated Woodpecker																2						1														
Northern Flicker		1				3			2	3			3			6			6			4		7			1			1			1			
Olive-sided Flycatcher																2			3			1														

COMMON NAME	January			February			March			April			May			June			July			August			September			October			November			December		
Pacific-slope Flycatcher																			3																	
Hutton's vireo																			1																	
American Crow		14				15			10		28			10			14			8			4			12			5			5			2	
Common Raven										1												1					1									
Tree Swallow										1							4																			
Violet-green Swallow										1			1				7			3		1														
Cliff Swallow																			4																	
Barn Swallow											5			2			23			11		4														
Black-capped Chickadee								6		1			1				6			1		2			5											
Chestnut-backed Chickadee		6				5		8		21			5				16			27		12			13			8			5			16		
Bushtit		2						1		1			4				1			22														12		
Red-breasted Nuthatch								2		4			3				6			6		3			6					2						
Brown Creeper					1			1											1		4			2										1		
Bewick's Wren					5					1			2				5					2			3					1				2		
House Wren										2			7				7			1																
Winter Wren		8				12			13		21		3				8			3		4			12			2			5			8		
Golden-crowned Kinglet		16				14			14		10		7				2			4			8			24			7			10			11	
Ruby-crowned Kinglet		13				1			7		4																				4			4		
Swainson's Thrush																	3																			
American Robin		12				24			57		45		30				34			29		24			23			2			3				11	
Varied Thrush																									1											
European Starling		2				2			4		11		3				9			7					5					2						
Cedar Waxwing																			17			4														
Orange-crowned Warbler											3		7				1						2													
Yellow Warbler																							1													
Yellow-rumped Warbler													2				2						1													
Wilson's Warbler													5																							
Spotted Towhee		7				2			3		8		15				15			7		2			7			3			5				3	
Savannah Sparrow											4		3				1								2											
Fox Sparrow		2									1														5			1			5					
Song Sparrow		7				6			10		10			10			4			2		3			5			5			8					
White-crowned Sparrow											10			19			24			3		7								1						
Golden-crowned Sparrow		15				5			3		13			10											6			6			7				6	
Dark-eyed Junco		5							8		3			1			4			1		3			7			8			6				14	
Black-headed Grosbeak																	1																			
Red-winged Blackbird						6			3		7			6			7																			
Brewer's Blackbird																	7								2											
Brown-headed Cowbird											3			11			4			2																
House Finch									1		22			11			29			12			14			8										

[illegible]

Appendix 5. List of species with counts of individuals observed by monthly visits, Oct. 2002 – Sept. 2003 at Fort Ebey State Park, Ebey’s Landing National Historical Preserve.

COMMON NAME	January			February			March			April			May			June			July			August			September			October			November			December		
Mallard		18			10			5				3			2							3			4			12			3			10		
Ring-necked Duck		1																																		
Greater Scaup		14			32			8				4																		32			21			
Lesser Scaup														6																						
Harlequin Duck		11			13			10				2						1			5			4			7			20			13			
Surf Scoter		22			14			4				19		1										14			21			7			10			
White-winged Scoter											11		4																							
Black Scoter		1						1																												
Long-tailed Duck		4			6			5																						3			6			
Bufflehead		28			17			12				2																		30			39			
Common Goldeneye		4			5			3																									2			
Barrow's Goldeneye		2																																		
Red-breasted Merganser		8			20			30																			9			2						
Ring-necked Pheasant																																	6			
Red-throated Loon					1							2																5		1			1			
Pacific Loon		1						4				23		1										3			2		1				4			
Common Loon		3			4			3				3		1			1							1			4		2							
Horned Grebe		6			29			52				6															6			21			13			
Red-necked Grebe					7			12				7		6						3			2			3										
Eared Grebe																														1						
Western Grebe		1						2						1													5			14						
Brandt's Cormorant																								9												
Double-crested Cormorant		14			10			2				3		3			1		1			3		6		8			4			3				
Pelagic Cormorant		3			1			5					1				3						4						3			1				
Great Blue Heron					1			1													1		2						1							
Bald Eagle		1			1			1									2		1								1									
Northern Harrier								1																			1									
Red-tailed Hawk																								1												
Merlin					1																															
Sora																							1													
Black Oystercatcher								2				2		2			21						17													
Sanderling																														41			134			
Bonaparte's Gull																							1													
Bonaparte's Gull																	8		63		391		235													
Mew Gull		8			8			3																						12			30			
Ring-billed Gull								2									1		1			6														
Glaucous-winged Gull		45			25			35				14		6			220		32		48		17		13				5			16				
Common Murre					5												3		3			14		1												

COMMON NAME	January			February			March			April			May			June			July			August			September			October			November			December		
Pigeon Guillemot				6			12			7			13			5			5			6			12					1			1			
Marbled Murrelet				3									4						1			4										1				
Rhinoceros Auklet		2		15						5			20			336			112			6														
Band-tailed Pigeon										2						3			3																	
Mourning Dove							2			4			7			9			3			2			1											
Great Horned Owl						4	1																													
Barred Owl							1																													
Northern Saw-whet Owl							1																													
Rufous Hummingbird										5			23			10			1																	
Belted Kingfisher										2						2			2			1					1									
Hairy Woodpecker				2			3						3			1			1			1			1			1								
Downy Woodpecker																											1									
Pileated Woodpecker													4																							
Northern Flicker		2		1			3			4			2			7						6			3			2			4		3			
Olive-sided Flycatcher																2			4			1														
Western Wood-Pewee																			1																	
Willow Flycatcher																2																				
Hammond's Flycatcher													1																							
Pacific-slope Flycatcher													8			9			5			6			1											
Cassin's Vireo																						3														
Hutton's vireo		2		1			3			1			2			2						2			1							1				
Warbling Vireo													1																							
Steller's Jay																									1											
American Crow							6			5			9			7			8			3			1			3			1					
Common Raven							1			2			1												1			1			1					
Violet-green Swallow													8			8			2			6														
Northern Rough-winged Swallow													5			2			3																	
Cliff Swallow																						2														
Barn Swallow													4			8			8			9														
Black-capped Chickadee																3																				
Chestnut-backed Chickadee		36		61			71			41			21			46			37			52			71			36			63		39			
Bushtit		12					9						2									4								10		35				
Red-breasted Nuthatch				4			4			4			12						5			16			10			5			3		3			
Brown Creeper		1		4			5			2			1			3			1			9			5			2			4		4			
Bewick's Wren		1		2			2						3			2			1			3			1			1								
House Wren													1																							
Winter Wren		24		33			25			29			16			13			7			12			19			12			35		28			
Golden-crowned Kinglet		119		189			102			14			9			7			6			15			81			99			144		126			

